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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,025	07/27/2001	William Croasdale	RAY-122J	9659
7590		10/07/2004	EXAMINER	
Iandiorio & Teska		YE, LIN		
260 Bear Hill Road		ART UNIT		
Waltham, MA 02451-1018		PAPER NUMBER		
		2615		

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/917,025	Applicant(s) CROASDALE, WILLIAM	
	Examiner Lin Ye	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/14/04 have been fully considered but they are not persuasive as to claims 1-11 and 25-31.

For claims 1 and 25, the applicant argues that no motivation, teaching or suggestion in the Galante reference (U.S. Patent No. 3,258,595) to include a transmission cable as claimed by the applicant. The examiner disagrees. It is well known in the art to see the camera system have more flexible options to use either the wired or wireless method to transmit/receive the data to/from remote control station. The Sosoya reference (JP. Publication 06-141211) clearly discloses in figures 2-3, a transmission cable extending from the optical bench (2) for transmitting video signals to a remote location (10). The Sosoya reference is evidence that one of ordinary skill in the art at the time to see more advantages for the camera system using a cable to transmission video signals to remote location instead of wireless transmitter so that the signal can be more clear and less noise without interference from outside environment. For theses reasons, it would have been obvious to include a transmission cable for transmitting video signals to a remote location in the buoy system disclosed by Galante.

2. Applicant's arguments with respect to claims 12-24 and 34 filed on 7/14/04 have been considered but are moot in view of the new ground(s) of rejection. For this reason, the previous final rejection is withdrawn. This office action is made by final again.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 10 and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galante U.S. Patent 3,258,595 in view of Sosoya JP. Publication 06-141211.

Referring to claim 1, the Galante reference discloses in Figures 1-4, a photonic buoy (buoy 15 incorporating camera system 54, see Col. 4, lines 3-5 and lines 33-35) comprising: a lengthy hull including a ballast portion of the hull (power plant 16, see Col. 3, lines 35) which resides below the waterline and a top portion of the hull (20, see Col.3, lines 52-55) which is disposed above the waterline; an optical bench (dome-shaped parent material 35, see Col. 4, lines 8-11) including an imager (camera 54) at the top portion of the hull configured to provide view of the horizon. However, the reference only mention the camera (54) can zoom, pan and tilt for change field of view of camera (See Col.4, lines 33-40), but does not explicitly show the optical bench can be configured to provide a panoramic view of horizon.

The Sosoya reference discloses in figures 2-3, an optical bench (2) at top portion of the antenna pillar (16) configured to provide a panoramic view of the horizon (the omni direction 360 degrees, see detailed description on [0017]). The Sosoya reference is evidence that one of ordinary skill in the art at the time to see more advantages for the camera system including

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a optic bench to acquire omnidirectional image at one time, so resultant the omnidirectional image is a real-time image without employing any mechanical means. For that reason, it would have been obvious to see the buoy having the optical bench configured to provide a panoramic view of horizon disclosed by Galante.

The Galante reference also only shows the buoy including a laser Receiver and amplifier and television transmitter (100, see Col. 5, lines 57-58) extending from the optical bench for wireless transmitting video signals to a remote location (See Col. 5, lines 4-15), but it does not explicitly show a transmission cable for transmitting video signals to a remote location.

The Sosoya reference discloses in figures 2-3, a transmission cable extending from the optical bench (2) for transmitting video signals to a remote location (10). The Sosoya reference is evidence that one of ordinary skill in the art at the time to see more advantages for the camera system using a cable to transmission video signals to remote location instead of wireless transmitter so that the signal can be more clear and less noise without interference from outside environment. For that reason, it would have been obvious to include a transmission cable for transmitting video signals to a remote location in the buoy system disclosed by Galante.

Referring to claim 2, the Sosoya reference includes a conical mirror inside the top portion of the hull (antenna pillar 16) surrounded by a transparent wall (Figure 3 clearly shows the wall is transparent, the light of image from outside A, B, C can directly through the wall to the conical mirror 12a) and a vertically oriented imager (CCD 14) aimed at the conical mirror (12a).

Referring to claim 3, the Galante and Sosoya references do not explicitly state the conical mirror is also conical prism. Official Notice is taken that both the concept and the advantages of providing the optical bench can either use conical mirror or conical prism to provide a panoramic view of the horizon is well known and expected in the art. It would have been obvious to have more flexible designing options to choice using conical prism or conical mirror to provide omnidirectional image on the optical bench disclosed by Galante (e.g., **It also should be noted that Applicant's failure to adequately traverse the Examiner's taking of Office Notice in the last office action is taken as an admission of the facts noticed**).

Referring to claim 4 (depends on claims 2 or 3), the Sosoya reference discloses the imager (14) is a CCD camera (See detailed description on [0017]).

Referring to claim 5 (depends on claims 2 or 3), the Galante reference discloses the imager (camera 54) is an infrared camera (see Col. 4, lines 50-60).

Referring to claim 6, the Sosoya reference discloses a sensor (mixer 8) in the hull that detects the attitude to provide orientation information of the video imagery as shown in Figure 5(B) (See [0022]).

Referring to claim 7 (depends on claims 2 or 3), the Galante and Sosoya references do not explicitly states the transmission cable includes optical fibers. Official Notice is taken that both the concept and the advantages of providing the optical fibers in the cable to transmitting the video image to remote location is well known and expected in the art. It would have been obvious to have optical fibers included in the transmission cable in Sosoya as this transmission media is known to provide to high speed and capacity of transmission

rate (e.g., **It also should be noted that Applicant's failure to adequately traverse the Examiner's taking of Office Notice in the last office action is taken as an admission of the facts noticed).**

Referring to claim 10, the Galante reference discloses the ballast portion (Power plant 16) includes a weight disposed therein as shown in Figures 1-2.

Referring to claims 25-31, the Galante and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claims 1-7.

5. Claims 12, 16-21, 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galante U.S. Patent 3,258,595 in view of Sosoya JP. Publication 06-141211 and Grober U.S. Publication 2003/0007795.

Referring to claim 12, the Galante and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 1, and Galante reference discloses a workstation (remote control station 110 in Figure 4, see Col, 5, lines 68-75) remote from the hull, responsive to the optical bench, and including a display (112) for presenting a composite image of the horizon on the display. However, the reference does not explicitly show the workstation including an image stabilization circuitry.

The Grober reference discloses in Figures 1-2, a photonic buoy including a ballast portion which resides below the waterline and a top portion which is disposed above the waterline; a workstation remote from the hull, responsive to the optical bench, and including a display (18) and image stabilization circuitry (control panel 17) for presenting a composite image of the horizon on the display (see [0027]). The Grober reference is evidence that one of

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ordinary skill in the art at the time to see more advantages for the remote control station remote from the observation device including an image stabilization circuitry so that the remote camera operator can control the desired position of the buoy camera easily and quickly. For that reason, it would have been obvious to include an image stabilization circuitry in the remote workstation disclosed by Galante.

Referring to claim 16, the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 2 and 12.

Referring to claim 17, the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 3 and 12.

Referring to claim 19 (depends on claims 16 or 17), the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 5 and 16-17.

Referring to claim 18 (depends on claims 16 or 17), the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 4 and 16-17.

Referring to claim 20, the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 6 and 12.

Referring to claim 21 (depends on claims 16 or 17), the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 7 and 16-17.

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Referring to claim 24, the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 10 and 12.

Referring to claim 34, the Galante, Sosoya and Grober references disclose all subject matter as discussed with respected to same comment as with claims 10 and 12.

6. Claims 8-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galante U.S. Patent 3,258,595 in view of Sosoya JP. Publication 06-141211 and Miller U.S. Patent 4,794,575.

Referring to claims 8-9, the Galante and Sosoya references disclose all subject matter as discussed in respected claim 1, except the references do not explicitly states the hull of buoy has a self scuttling plug therein and buoy can be launched by a submarine.

The Miller reference discloses in Figures 1-2, a buoy (10) is launched from the submarine via the after signal ejector, buoyantly ascends to the surface, and then transmits sea surface information back to the submarine via the data link. The buoy (10) includes a self scuttling plug (dissolving plugs 16, see Figure 5 and Col. 5, lines 62-68). The buoy has a diameter compatible with a launcher (ejector 50, see Col. 5, lines 17-31) as shown in Figure 2. The Miller reference is evidence that one of ordinary skill in the art at the time to see more advantages for the submarine can launch a buoy in order to determine sea surface conditions and the buoy have a self scuttling plug to provide its sink in order to easily pull back the buoy to the submarine. For that reason, it would have been obvious to see the hull of buoy has a self scuttling plug therein and the buoy can be launched by a submarine disclosed by Galante.

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Referring to claims 11, the Galante and Sosoya references disclose all subject matter as discussed in respected claim 1, except the references do not explicitly states the ballast portion of the hull includes a first spool of transmission cable and the workstation is located on board a submarine which includes a second spool of the transmission cable.

The Miller reference discloses in Figures 1-2, a ballast portion of the hull (10) includes a first spool of transmission cable (spool 32) and a second spool of transmission cable (spool 34) which connect inside of workstation of submarine (See Col. 4, lines 50-67). The Miller reference is evidence that one of ordinary skill in the art at the time to see more advantages for having spools of transmission cable to extend or shear the length of cable in order launching or scuttling buoy and transmitting data easily. For that reason, it would have been obvious to see the buoy including the spool of the transmission cable disclosed by Galante.

7. Claims 13-14 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galante U.S. Patent 3,258,595 in view of Sosoya JP. Publication 06-141211, Grober U.S. Publication 2003/0007795 and Miller U.S. Patent 4,794,575.

Referring to claims 13-14, the Galante, Sosoya, Grober and Miller references disclose all subject matter as discussed with respected to same comment as with claims 11-12.

Referring to claims 22-23, the Galante, Sosoya, Grober and Miller references disclose all subject matter as discussed with respected to same comment as with claims 8-9 and 12.

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8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Galante U.S. Patent 3,258,595 in view of Sosoya JP. Publication 06-141211, Grober U.S. Publication 2003/0007795 and Gove U.S. Patent 5,973,733.

Referring to claim 15, the Galante, Sosoya and Grober references disclose all subject matter as discussed in respected claim 12, except the references do not explicitly states the image stabilization circuitry which includes frame rate image processing software and hardware for stabilization instead that remotely controlling mechanical or optical ways for stabilization.

The Gove reference discloses in Figures 1-2, a video camera includes an image stabilization circuitry (28). The stabilization circuitry includes frame rate image processing software (algorithms 52) and hardware (processor 50) for stabilization (See Col. 3, lines 37-53). The Gove reference is evidence that one of ordinary skill in the art at the time to see the camera stabilization circuitry having frame rate image processing software and hardware for stabilization so that providing a relatively lower cost solution than the mechanical optical ways for stabilization (See Col. 1, lines 36-40 and Col. 2, lines 22-25). For that reason, it would have been obvious to see the image stabilization circuitry which includes frame rate image processing software and hardware for stabilization disclosed by Galante.

Conclusion

9. Applicant's arguments necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lin Ye** whose telephone number is **(703) 305-3250**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to:

(703) 872-9306

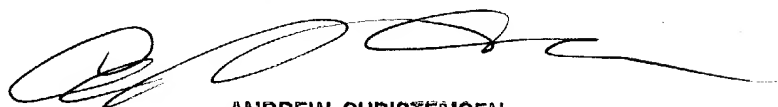
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA., Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Lin Ye

September 27, 2004

A handwritten signature in black ink, appearing to read 'Andrew Christensen', with a long horizontal flourish extending to the right.

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600